

REMARKS/ARGUMENTS

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

Status of the Claims

Claims 1 and 3-19 are pending. Claim 2 has been canceled without prejudice or disclaimer of the subject matter contained therein. Claims 1, 15, and 16 have been amended. No new matter is added.

Applicants appreciatively acknowledge the Examiner's indication that claim 13 contains allowable subject matter and would be allowable if rewritten to be in independent form to include all the features of its base and any intervening claims.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-6, 8-12, 14, and 16-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,455,340 of Chua et al. ("Chua") in view of U.S. Patent No. 6,740,604 of Kelly et al. ("Kelly"). Claim 7 stands rejected as being unpatentable over Chua and Kelly in view of U.S. patent No. 6,447,604 of Flynn et al. ("Flynn"). Claim 15 stands rejected as being unpatentable over Chua in view of U.S. patent No. 6,071,795 of Cheung et al. ("Cheung"). Claim 2 has been canceled, thus, rendering the rejection moot with respect to claim 2.

The Office Action states that a combination of Chua and Kelly

fail[s] to expressly disclose wherein the heating of the first nitride semiconductor layer collectively increases the temperature of the first, second and third nitride semiconductor layer to said third temperature.

However, the recited limitation is seen as a heating step on the first nitride layer at a third temperature, and said heating inherently increases the temperature of the other layer. Therefore, the

combination of teachings of Chua and Kelly inherently teach the recited limitation.

Applicants submit that both Chua and Kelly are related to a separation method using a laser beam. In Chua, the laser beam is applied in the interface between the GaN buffer layer and the laser absorption InGaN layer. Chua, column 6, lines 14-17.

In Kelly, the energy absorbed in the second semiconductor layer is predominantly applied in proximity to the interface between the two semiconductor layers. Kelly, column 6, lines 19-23.

As to the heating mechanism using a laser beam, Kelly expressly points out that:

The way in which this process is implemented depends on the material system. A preferred embodiment for semiconductor material uses a material on the interface to be separated with a smaller band gap than all other layers or materials on one side of the interface. For exposure, a radiation wavelength is selected at which the radiation can penetrate as far as the interface, and which is absorbed by the material with smaller band gap. Decomposition in this or a neighboring material must thereby be inducible.

Kelly, column 8, lines 8-16. Kelly further discloses:

If the decomposition is thermally activated, it is important for it to be possible *for the resultant heat to be concentrated onto the interface* or the sacrificial layer, on the one hand in order to minimize the required incident intensity, and on the other hand *in order to preclude the possibility of undesired effects on the surrounding material.*

Kelly, column 8, lines 43-48 (emphasis added). Assuming *arguendo*, as the Examiner asserts, that the recited feature is seen as a heating step on the first nitride layer at a third temperature, and said heating inherently increases the temperature of the other layer, Applicants respectfully submit that a combination of Chua and Kelly, to the extent proper, does not inherently

teach the recited feature. Rather, a combination of Chua and Kelly merely would describe that the increase of the temperature of the neighboring layer must be minimized.

In Chua and Kelly, the separation by laser beam takes place based on the difference in band gaps, not based on the difference in the equilibrium vapor pressures of nitrogen, as in the claimed invention. Accordingly, a combination of Chua and Kelly, to the extent proper, could not render amended independent claims 1, 15 and 16 and their respective dependent claims obvious.

Flynn fails to describe those features demonstrated to be missing from Chua and Kelly. With regard to a combination of Chua and Cheung, Cheung also relies on a laser beam, as opposed to the difference in the equilibrium vapor pressures of nitrogen. Accordingly, a combination of Chua and Cheung, to the extent proper, also fails to render the present claims obvious.

Reconsideration and withdrawal of the respective rejections of claims 1, 3-12 and 14-19 under 35 U.S.C. § 103(a) based on respective rejections of Chua, Kelly, Flynn, and Cheung is respectfully requested.

CONCLUSION

Each and every point raised in the Non-Final Office Action mailed March 4, 2009 has been addressed on the basis of the above amendments and/ or remarks.

In view of the foregoing it is believed that claims 1 and 3-19 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, or to credit any overpayment, to Deposit Account No. 04-0100.

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Respectfully submitted,

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